

West Nile Virus

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Description of disease: West Nile virus causes an infection called West Nile fever, which can result in meningitis or encephalitis. The incubation period for West Nile fever ranges from 5 to 15 days. Most cases are either asymptomatic or produce very mild symptoms. People with mild cases may experience fever, headache, body aches, fatigue, joint aches, skin rash, swollen lymph glands and sore throat. People with severe cases may experience headache, fever, neck stiffness, disorientation, tremors, muscle weakness and coma. There is no treatment for this infection, except treatment of symptoms and supportive care. Case fatality rates associated with West Nile encephalitis range from 3 – 15 %. People age 50 and older are most at risk for severe cases.

Transmission: West Nile virus is one of a number of viruses that are transmitted in the United States by the bite of a mosquito. Others include the agents of St. Louis, eastern equine and western equine encephalitis, all reportable diseases in the state of Florida. West Nile virus is sustained in bird-mosquito cycles; humans are considered dead-end hosts (figure 1). Mosquitoes become infected when they feed on infected birds. After an incubation period of 10 days to 2 weeks, mosquitoes can transmit the virus to humans and animals during feeding. West Nile virus cannot be transmitted person to person; transmission must involve the bite of a mosquito (primarily the bite of the *Culex* species).

Although most birds identified with West Nile virus in the United States have been crows, infections also have been found in other types of birds, including the raven, rock dove, sandhill crane, fish crow, blue jay, bald eagle, laughing gull, black-crowned night heron, mallard, Canadian goose, robin, sparrow, racing pigeon, red-tailed hawk and broad-winged hawk. Humans cannot get the West Nile virus directly from birds, but gloves should be worn when handling any dead bird or mammal.

West Nile virus surveillance: West Nile virus was first isolated in Uganda in 1937. West Nile virus had not been identified in the western hemisphere until 1999 when 62 people (7 died) were diagnosed with West Nile infection in New York. Currently, West Nile virus has been identified in the bird population in 5 northeastern states (New York, New Jersey, Connecticut, Massachusetts, Rhode Island) and there have been 5 reported human cases during 2000, all within New York.

Florida has developed a number of surveillance programs to detect West Nile and other arboviral infections, including St. Louis encephalitis. These include:

- Sentinel chicken surveillance. Participating counties place chicken flocks in rural areas and periodically bleed the chickens to detect arboviruses. The closest county to Miami-Dade with sentinel chicken sites is Palm Beach.
- A dead bird registry. This is maintained by the Florida Fish and Wildlife Conservation Commission. Persons who find dead birds are encouraged to report them to the

Commission's website

(www.wld.fwc.state.fl.us/bird/), or to call the Miami-Dade County Health Department's Office of Emergency Management (305-284-0978).

- Testing of selected dead birds. This is done by the Department of Health in cooperation with the Department of Agriculture and Consumer Services Veterinary Laboratory in Kissimmee. Please call the Miami-Dade County Health Department's Office of Emergency Management (305-284-0978) for selected bird testing. (For a copy of the protocol for collection and testing of birds, see www.doh.state.fl.us/disease_ctrl/epi/htopics/arbo/10.htm)
- Testing of mosquito pools by mosquito control districts. This will begin if there is evidence of West Nile virus moving into the Southeast.
- Reporting of human viral infections. Physicians who suspect or diagnose a reportable arboviral infection or encephalitis should notify the Miami-Dade County Department of Health's Office of Epidemiology and Disease Control by telephone or fax. A copy of the list of reportable diseases is available at the following website:
http://www.doh.state.fl.us/disease_ctrl/epi/surv/lor.pdf

Prevention and control of West Nile virus:

To date, no cases of West Nile encephalitis have been detected in Florida. Prevention and control of mosquito-transmitted diseases depends on avoidance of mosquito bites and elimination of mosquito breeding places.

- Make sure all windows and doors have screens and all screens are in good repair.
- Wear shoes, socks, long pants and a long-sleeved shirt when mosquitoes are present.
- Use mosquito repellent containing DEET, according to directions when mosquitoes are present.
- Eliminate standing water around the home.
- Dispose of tin cans, plastic containers, ceramic pots or similar water-holding containers.
- Remove all discarded tires from your property.
- Drill holes in the **bottom** of recycling containers that are kept outdoors.
- Make sure roof gutters drain properly, and clean clogged gutters in the spring and fall.
- Turn over plastic wading pools and wheelbarrows when not in use.
- Change the water in birdbaths.
- Clean vegetation and debris from edges of ponds.
- Clean and chlorinate swimming pools, outdoor saunas and hot tubs.
- Drain water from pool covers.
- Use landscaping to eliminate standing water that collects on your property.

References:

- (1) Control of Communicable Disease in Man Manual 17th Edition Pages 31-32
- (2) New York City Department of Health Bureau of Communicable Disease

“Questions and Answers About West Nile Fever”

(3) Center for Disease Control and Prevention; www.cdc.gov “CDC answers your questions about West Nile Encephalitis”

(4) ProMed-mail www.promedmail.org

Friday, August 25, 2000

“West Nile Virus, Human Cases – USA”

To report diseases or for information:

Office of Epidemiology and Disease Control
Childhood Lead Poisoning Prevention Program

305-324-2414

Other diseases and outbreaks 305-324-2413

Injury Prevention Program 305-324-2953

HIV/AIDS Program 305-377-7400

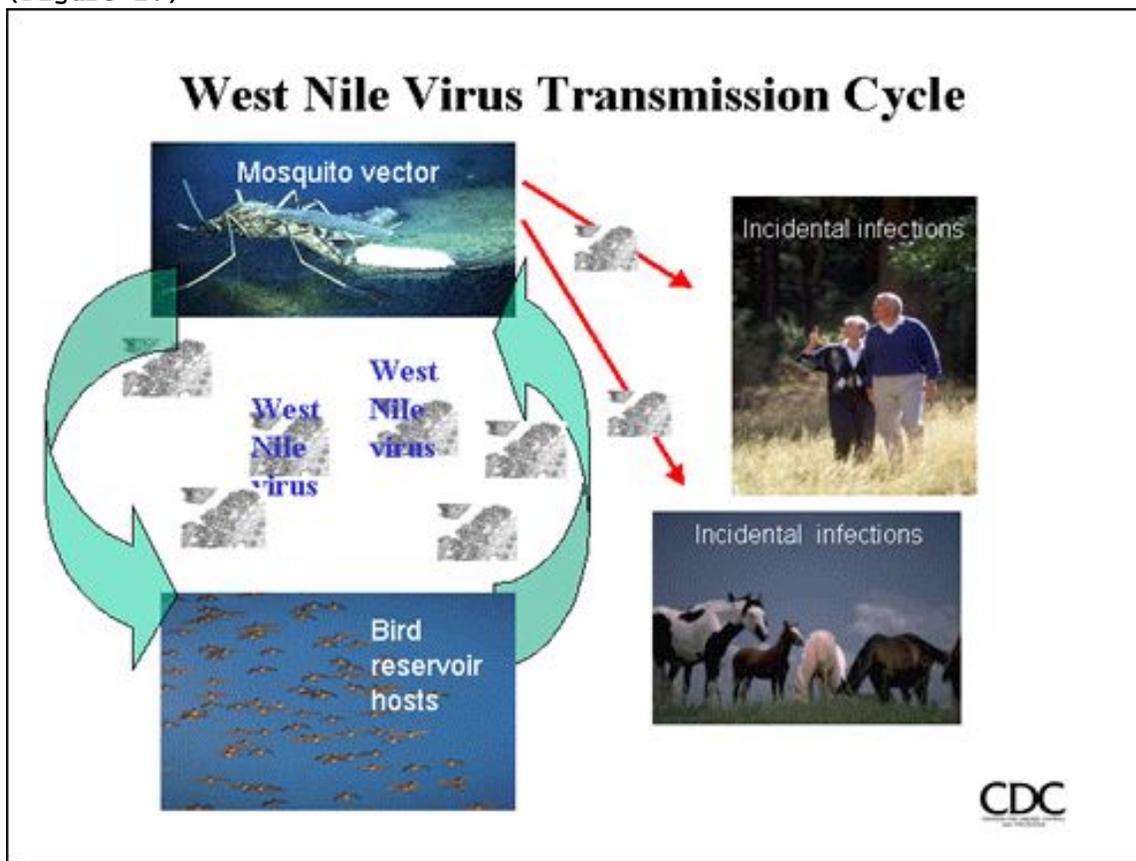
STD Program 305-325-3242

Tuberculosis Program 305-324-2470

Special Immunization Program 305-376-1976

Nights, weekends, and holidays 305-377-6751

(Figure 1.)



Monthly Report

Selected Reportable Disease/Conditions in Miami-Dade County, *July, 2000*

Diseases/Conditions	Reported Cases this Month	2000 Year to Date	1999 Year to Date	1998 Year to Date
AIDS ^{*Provisional}	100	811	885	977
Campylobacteriosis	41	89	114	96
Chancroid	0	0	1	3
<i>Chlamydia trachomatis</i>	244	2246	2614	1184
Ciguatera Poisoning	1	1	0	0
Cryptosporidiosis	4	5	19	26
Cyclosporiasis	0	0	0	2
Diphtheria	0	0	0	0
<i>E. coli</i> , O157:H7	0	1	4	2
<i>E. coli</i> , Other	1	1	0	1
Encephalitis	0	0	0	0
Giardiasis, Acute	75	96	70	87
Gonorrhea	187	1749	1709	974
Granuloma Inguinale	0	0	0	0
<i>Haemophilus influenzae</i> B (invasive)	0	1	3	0
Hepatitis A	2	39	63	89
Hepatitis B	11	30	76	50
HIV ^{*Provisional}	145	1030	929	1105
Lead Poisoning	40	247	Not available	Not available
Legionnaire's Disease	0	0	1	2
Leptospirosis	0	0	0	0
Lyme disease	0	3	5	1
Lymphogranuloma Venereum	0	0	0	2
Malaria	3	18	23	20
Measles	0	0	0	0
Meningitis (except aseptic)	4	13	25	30
Meningococcal Disease	5	17	14	10
Mumps	0	1	3	0
Pertussis	0	4	11	11
Polio	0	0	0	0
Rabies, Animal	0	0	0	1
Rubella	1	1	0	0
Salmonellosis	80	146	209	205
Shigellosis	68	124	124	219
<i>Streptococcus pneumoniae</i> , Drug Resistant	15	120	168	110
Syphilis, Infectious	5	72	40	17
Syphilis, Other	45	449	545	372
Tetanus	0	0	0	0
Toxoplasmosis	0	0	1	2
Tuberculosis ^{*Provisional}	29	178	154	159
Typhoid Fever	1	1	15	3
<i>Vibrio</i> , cholera	0	0	0	0
<i>Vibrio</i> , Other	0	0	0	1

*Data on AIDS are provisional at the county level and is subject to edit checks by state and federal agencies.

** Data on tuberculosis are provisional at the county level.